

DRAMATIC IMPROVEMENT OF MIGRAINE AFTER CARDIAC SURGERY

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INTRODUCTION

In a previous report, Haan and Ferrari discussed about the headache from which the famous composer Gustav Mahler suffered.

The Authors argued that it could not be ruled out that this **migrainous type headache was associated with endocarditis**, that later would be the cause of death of the artist, hypothesizing a so called '**Mahler's migraine**' [1].

In literature, other associations between endocarditis and development of migraine-like headache are not reported and the role of cardiac dysfunctions in its pathophysiology is still debated.

CASE REPORT

We describe the case of a 44-year-old Russian woman who came to our attention for **acute visual disturbances followed by headache unresponsive to NSAIDs**.

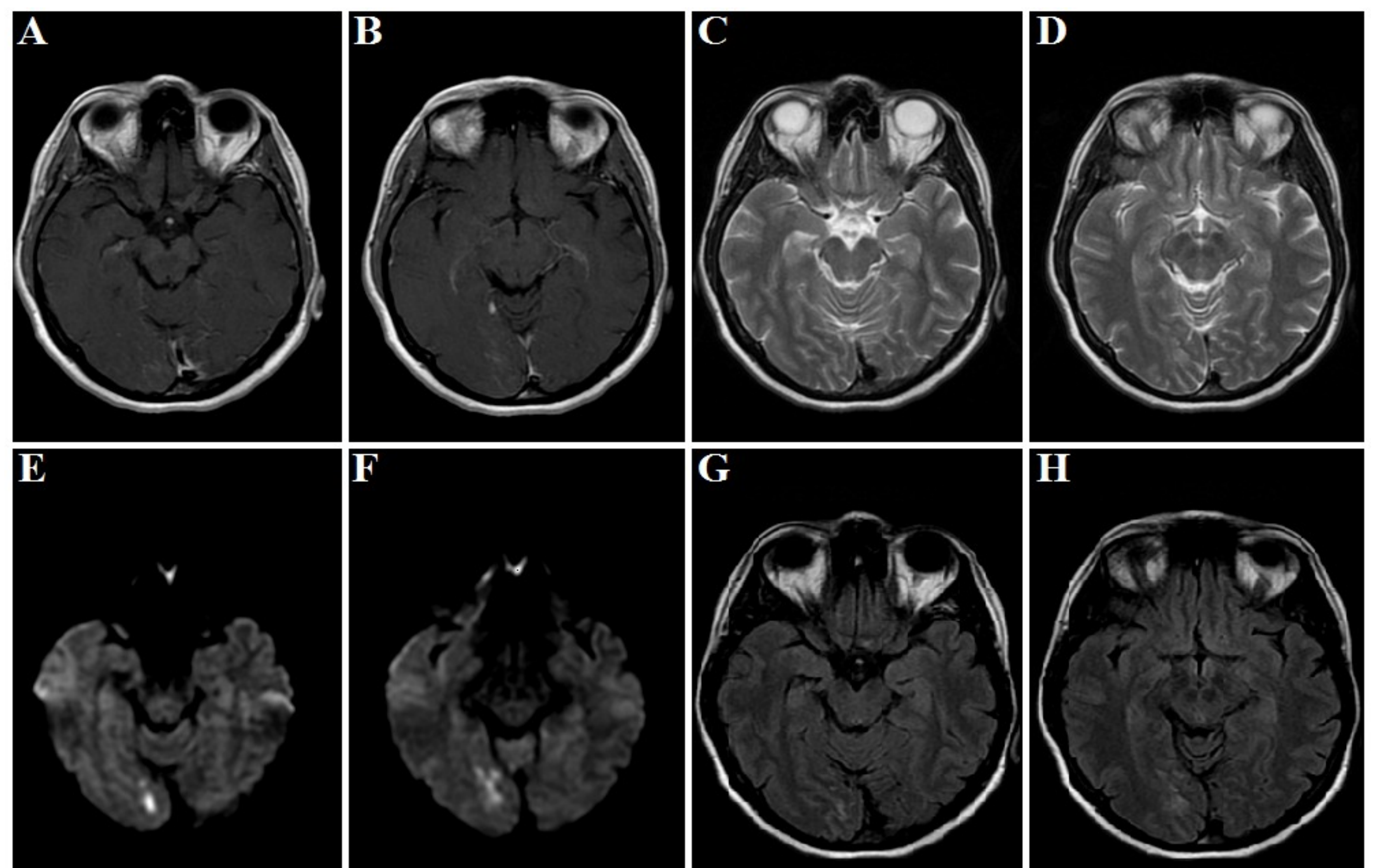
The patient suffered from recurrent episodes (more than 10/month) of non-throbbing bilateral occipital headache with visual symptoms, nausea, photo- and phonophobia lasting about 12 hours, partially responsive to NSAID, and remitting with sleep. Some of these episodes were associated with transitory speech disturbance.

At the time of our first observation, ophthalmological evaluation demonstrated **visual defect in right eye and left upper quadrantanopia**. Further neurological examination was unremarkable.

The patient had no fever, antistreptolysin titer was >200 IU/ml, erythrocyte sedimentation rate was 43 mm/h, C-Reactive Protein was normal, white cell blood count and procalcitonin levels were normal.

Brain Magnetic resonance imaging showed an **acute right ischemic occipital lesion**.

A subsequent trans-esophageal echocardiogram showed severe mitral valve stenosis, medium aortic regurgitation, severe tricuspid regurgitation, with aorto-pulmonary pressure of 45mmHg.



MRI of the brain in our patient. (a), (b) DWI and (c), (d) ADC maps show a hypointense signal. These findings are consistent with an area of acute ischemia in the right occipital lobe. (e), (f) T1-weighted showing contrast enhancement within the ischemic area. (g), (h) FLAIR sequences show a hyperintense signal in the same right occipital areas, consistent with a chronic damaging process.

CONCLUSION

According to JONES criteria diagnosis of **rheumatic fever with endocarditis was made**. The patient was then subjected on day 6 after our first examination to **cardiac-surgical intervention with implantation of mechanical aortic and mitral valve prostheses, and tricuspid plastic**. In the left atrium, a massive **blood clot** that filled the entire auricle was found and removed.

At follow up examination, performed 6 months after surgery, the patient did not show left visual field impairment; visual impairment of right eye was unmodified. Also the neurological status was unchanged.

In our case, the clinical features of the disorder completely fulfilled **the diagnostic criteria for migraine with aura**.

Interestingly, the patient reported **the frequency of headache attacks was markedly reduced**, and she had presented only two brief attacks. At further follow up, performed 18 months after surgery, brain MRI was unmodified, and **the patients didn't report any other headache attack**.

The subordination of migraine disorder (or, at least, the increased frequency of attacks) in our case is confirmed by the dramatic improvement of symptoms after resolution of the condition sustaining the secondary recurrent attacks of migraine with aura.

DISCUSSION

Previous studies suggested a **role of microembolism** in the pathophysiology of migraine, **especially migraine with aura** [2, 3]. In our patient, it is certainly conceivable that the complex rheumatic heart disease was associated to the presence of a cardiac thromboembolism.

Our findings are consistent with **the role of hypothetic microembolism in migraine pathophysiology**.

In conclusion, even if clinical features of migraine attacks with aura fulfill the diagnostic criteria (IHS - beta 3) for a primary form of headache, the contemporary presence of suspicious clinical elements for systemic disease, **should necessarily prompt to investigate the possibility of a form of secondary migraine-like headache with systematic search for embolic sources**.

REFERENCES

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